

2.1-2.3 (EXTENSION)

Inductive Reasoning
(observations, patterns, previous examples)

Complete the pattern

Counterexample

Venn Diagrams

If p , then q
hyp. conclusionConverse $q \rightarrow p$ Inverse $\sim p \rightarrow \sim q$ Contrapositive $\sim q \rightarrow \sim p$

Biconditional iff

Deductive Reasoning
- facts, laws of logic, etc...

Law of Detachment

$$\begin{array}{l} p \rightarrow q \\ p \\ \hline q \end{array}$$

Law of Syllogism

$$\begin{array}{l} p \rightarrow q \\ q \rightarrow r \\ \hline p \rightarrow r \end{array}$$

Valid/Invalid

Truth Table

Conditional

$$\begin{array}{c|c} p & q \\ \hline 1 & F \end{array} (F)$$

\wedge and
 only T when Both T

\vee or
 only F when Both F